PRUET PRODUCTION COMPANY
SILAS OIL & GAS PRODUCTION FACILITY
SILAS, CHOCTAW COUNTY, ALABAMA
Facility No.: 101-0003

STATEMENT OF BASIS

The proposed Title V Major Source Operating Permit (MSOP) Renewal is issued under the provisions of ADEM Admin. Code R. 335-3-16. The above named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans, and other documents attached hereto or on file with the Air Division of Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

The facility has proposed the following modifications to their MSOP:

- Decrease the frequency of hydrogen sulfide (H_2S) sampling from monthly sampling to semi-annual sampling.
- Reduce the firebox temperature for the Thermal Oxidizer from 1200^{O}F to 900 ^{O}F.
- Change the frequency of recordkeeping for the Thermal Oxidizer from daily to monthly recordkeeping.

The renewal will also address the facility's applicability to newly promulgated regulations.

The Silas Oil and Gas Production Facility (Silas Field) is currently equipped with the following units:

- Two (2) Heater Treaters
- Storage Tanks with vapor recovery system
  - Three (3) 42,000 gallon Crude Oil Storage Tanks
  - Two (2) 21,000 gallon Crude Oil Storage Tanks
  - One (1) 12,600 gallon Salt Water Storage Tank
- Thermal Oxidizer
- Emergency Flare

Process Description

The Silas Field produces a stream that consists of a mixture of associated sour gas, condensate and saltwater which is gathered from an onsite well and two offsite well. The stream from the offsite wells are sent to the facility for processing. Upon entering the facility each stream is sent through a low pressure and a high pressure heater treater. The heater treaters use gravity to separate the produced stream into an oil stream, a saltwater stream, and a sour gas stream.

After leaving the heater treater, the oil and saltwater streams are routed to their respective storage tanks until sold or disposed of. Vapors from the storage tanks are collected via a vapor recovery unit (VRU). The tank vapors are then

routed to the thermal oxidizer for burning because of the high hydrogen sulfide (H_2S) and volatile organic compound (VOC) content in the sour gas vapors. The sour gas stream contains an average concentration of about 21% H_2S. If the VRU is not in operation the wells are shut in.

The produced sour gas stream is routed to the thermal oxidizer for combustion via a closed vent system. Provided that the thermal oxidizer has been shut down, a bypass valve routes the gas stream to the backup emergency flare. The facility expects that during shut down, the duration of time the emergency flare operates will be less than one hour while each well is shut in. The facility is only allowed to use the emergency flare during periods of shut down or start up.

There is no additional fuel burning equipment located at this facility.

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The Silas Production Facility (Silas Field) may be subject to the following regulations:

Applicability:

- ADEM Admin. Code R. 335-3-5-.03(1), "*Petroleum Production*" applies to the control of sulfur compound emissions from each petroleum production facility that handles gas or refinery gas that contains more than 0.10 grain of hydrogen sulfide (H_2S) per standard cubic foot (scf). The Silas Field handles sour gas that contains 0.10 grain of H_2S/scf or more; therefore, the facility is subject to the applicable requirements of this regulation.

- ADEM Admin. Code R. 335-3-14-.04 "*Prevention of Significant Deterioration (PSD) Permitting".* Since the Silas Field was constructed prior to the time that PSD regulations were promulgated, the facility is considered to be a grandfathered source. Grandfathered sources are required to demonstrate compliance with PSD regulations using Best Available Retrofit Technology (BART) if they meet all of the following criteria: commenced construction between August 7, 1962 and August 7, 1977, had the potential to emit 250 TPY or more of visibility-impairing air pollutants, and was listed as one of the 26 source categories under PSD (28 source categories currently).

  The facility was constructed on July 19, 1976 and it had the potential to emit 250 TPY or more of SO_2 emissions; however, it did not fall under any of the 26 source categories. Therefore, it was determined that the Silas Field would not have a significant impact on a Class I area and it would not be subject to the requirements of PSD regulations. The facility's status as a grandfathered source has not change since the facility has not performed any significant modifications that would potentially trigger its applicability to PSD regulations.

- ADEM Admin. Code R. 335-3-16-.03, "*Major Source Operating Permits".* Silas Field has been deemed a major source of criteria pollutants. The sulfur dioxide (SO_2) emission from this unit has the potential to exceed 100 Ton per year (TPY); therefore, the facility is subject to the applicable requirements of this regulation.

Emission Standards:

- In order to meet the applicability requirements of ADEM Admin. Code R. 335-3-5-.03(2), all process gas containing greater than the 0.10 grain of H_2S/scf shall be burned to the extent that the ground level concentration of hydrogen sulfide are less than twenty (20) parts per billion beyond plant property limits, average over a thirty (30) minute period. This is

FACILITY WIDE EMISSIONS

accomplished by operating the thermal oxidizer and the emergency flare as required in the following sections.

- According to ADEM Admin. Code R. 335-3-5-.03(3), SO_2 emissions in Category II counties are unlimited provided that the available sulfur is less than 10 long tons per day (LTons/day) (1,867 pound per hour (lb/hr) of SO_2 emissions). The Silas Field is located in Choctaw County which is classified as a Category II county. Based on four years of data provided by the facility from 2005 to 2008, the facility is not expected to exceed 10 LTons/day of available sulfur; therefore, there is no limit for SO_2 emissions.

- Each process gas stream that has to be vented to the atmosphere should be first captured and sent to the thermal oxidizer or the emergency flare to be burned. Except for a period not to exceed 15 continuous minutes while depressurizing and/or empting equipment and when reduced pressure will not allow flow of gas to a control device, venting to the atmosphere is not allowed.

Compliance and Performance Test Methods and Procedures:

- Compliance with the requirement to burn gas containing 0.10 grains of H_2S/scf is demonstrated by sampling and testing all sour gas streams entering the thermal oxidizer for its H_2S content.

Emission Monitoring:

- Monitoring is met by maintaining the thermal oxidizer and emergency flare as required.

Recordkeeping and Reporting Requirements:

- The facility's record keeping and reporting requirements are met by performing monthly calculations for the thermal oxidizer and for the emergency flare during periods of startup and shutdown.

Emission:

Facility wide emissions for the Silas Field are given below. These are actual emissions obtained from 2007 Title V Fees.

2007 Actual Emissions Reported for Silas Production Field (TPY)				
	CO	**NO_X**	**SO_2**	**VOC**
Total	1.1	4.3	1,114.9	0.2

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The thermal oxidizer is used to meet the requirement to burn gas that contains more that 0.10 grains of hydrogen sulfide (H_2S) per standard cubic foot (scf).

Emission Point	Description	Pollutant	Emission Limit	Regulations
Individual Sources:				
	Thermal Oxidizer	Opacity	<=20 % <40%	Rule 335-3-4-.01(1) Rule 335-3-4-.01(2)
		H_2S	No venting to atmosphere	Rule 335-3-5-.03(2)
		H_2S	20 ppbv of H_2S offsite	Rule 335-3-5-.03(2)
		SO_2	Unlimited if available sulfur Less than or Equal to 10 LTons/Day	Rule 335-3-5-.03(3)

Applicability:

- The thermal oxidizer is subject to the applicable requirements of ADEM Admin. Code R. 335-3-4-.01, "*Visible Emissions"* for Control of Particulate Emissions. Sour gas is burned in the thermal oxidizer prior to being released to the atmosphere.

- The thermal oxidizer is required to meet the applicable requirements of ADEM Admin. Code R. 335-3-5-.03(1) "*Petroleum Production*", because this unit is used to demonstrate compliance with this regulation by burning the process gas streams prior to its release into the atmosphere.

- ADEM Admin. Code R. 335-3-16-.03, "*Major Source Operating Permits"*. The thermal oxidizer has the potential to emit greater than 100 TPY by itself. The majority of the emissions from the Silas Field are due to burning sour gas in the thermal oxidizer. The facility has been deemed a major source of criteria pollutants primarily because of the thermal oxidizer. Therefore, this unit is subject to the applicable requirements of this regulation.

- The thermal oxidizer is subject to 40 CFR 64, "*Compliance Assurance Monitoring (CAM)*". The following three criteria had to be met in order for this unit to be subject to CAM regulations: the unit had to be subject to an emission limit or standard, a control device had to be used to achieve compliance with the emissions limit or standard, and pre-controlled emissions had to be greater than 100 TPY for criteria pollutants, 10 TPY for a single hazardous air pollutant (HAP) or 25 TPY for a combination of HAPs.

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The thermal oxidizer is used as control device to comply with the work practice requirement to burn process gas containing 0.10 grains of H_2S/scf. Also the pre-controlled SO_2 emissions from the thermal oxidizer are expected to exceed the 100 TPY major source threshold for criteria pollutants; therefore, this unit is subject to CAM regulations.

Emission Standards:

- The thermal oxidizer is required to meet the 20% and 40% opacity requirement as specified in ADEM Admin. Code R. 335-3-4-.01(1) (a) and (b).

- Petroleum production facility's containing greater than 0.10 grains of H_2S/scf are required to burn each process gas stream to the extent that the ground level concentration of H_2S are less than 20 ppb beyond plant property limits, averaged over 30 minutes as required by ADEM Admin. Code R. 335-3-5-.03(2). Except when being depressurized and/or emptied, venting to the atmosphere shall not exceed 15 continuous minutes.

- Provided that the available sulfur processed by the facility is less than or equal to 10 LTons/day there is no sulfur dioxide emissions limit for Category II Counties as required by ADEM Admin. Code R. 335-3-5-.03(3).

Compliance and Performance Test Methods and Procedures:

- Compliance with the visible emissions standards shall be met by conducting visible emissions observations of the thermal oxidizer when visible emissions are observed as specified in the opacity monitoring section for the thermal oxidizer.

- Compliance with the requirement to burn each process gas stream containing 0.10 grains of H_2S/scf shall be demonstrated by maintaining the thermal oxidizer firebox temperature at 900 ^{O}F. The facility was initially required to maintain the temperature at 1200 ^{O}F; however, the permit allowed the facility to establish a new firebox temperature if it can demonstrate that at the new temperature the proper destruction efficiency is met. The facility requested to establish a new temperature since with declining production rates it would become more difficult to maintain the firebox temperature at 1200 ^{O}F and acquiring assist gas to meet this temperature would not be economically feasible for the facility.

  The newly established temperature was based on the fact that all other production facilities equipped with thermal oxidizers were required to maintain their firebox temperatures between 850 ^{O}F and 1,300 ^{O}F. Also, Pruet's Womack Hill facility which burns acid gas that has a higher H_2S concentration than the sour gas at the Silas Field and which has similar

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production rates and surface equipment as the Silas Field is required to maintain a 900 ^{O}F firebox temperature.

- Compliance with the requirement to maintain the offsite concentration at 20 ppbv shall be met by conducting the following:

  - Taking a sample of the sour gas streams entering the thermal oxidizer no less than once each six months or semi-annually and testing it for its H_2S content. Initially, the facility was required to perform monthly testing of the H_2S content for each process gas stream; however, the current MSOP allows for the facility to change the frequency of testing upon Departmental approval. As justification for the change in the testing frequency, the facility provided, in its renewal application, historic data from 2005 to 2008 to demonstrate that the H_2S content has not varied significantly over this time period.

  - Calculating the H_2S feedrate sent to the thermal oxidizer using the H_2S content obtained from semi-annual testing. An indicator of less than or equal to 500 lb/hr H_2S feedrate to the thermal oxidizer is used to demonstrate that the 20 ppbv H_2S offsite concentration is not exceeded. The 500 lb/hr H_2S feedrate is based on engineering experience and air quality modeling of larger sources.

Emission Monitoring:

- CAM and Periodic Monitoring for the thermal oxidizer is found in Table 1. Opacity monitoring for the thermal oxidizer is found in Table 2.

- Monitoring is also meet by performing the calculations found in the record keeping and reporting section for the thermal oxidizer.

Recordkeeping and Reporting Requirements:

- The following monthly records shall be maintained:

  Daily Firebox Temperature (^{O}F)

  Volume of Sour Gas Burned in Thermal Oxidizer (Mscf/Month)

  Each Sour Gas Stream H_2S (Lbs/Month)

  Total Hours Thermal Oxidizer Operated (Hours/Month)

  H_2S Feedrate to Thermal Oxidizer (Lbs/Hour)

  SO_2 Emissions (Lbs/Hour)

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Provided that visible emissions have been observed from the thermal oxidizer, records of visible emissions observations as specified in Table 2 shall be maintained.

Date, starting time, and duration of each deviation or exceedance of emission standards along with the cause and corrective actions taken.

- A Periodic Monitoring Report (PMR) that identifies each incidence of a deviation from a permit term or condition, including those that occur during startups and shutdowns shall be prepared and submitted to the Department.

  - The PMR report shall be submitted semi-annually on calendar basis according to the following schedule:

Reporting Period	Submittal Date
January 1st through June 31st	*July 31st*
July 1st through December 31st	*January 31st*

THERMAL OXIDIZER EMISSIONS

***Table 1**: Periodic Monitoring and CAM for Thermal Oxidizer*

Monitoring approach:	***Periodic Monitoring***	***Compliance Assurance Monitoring***
I. Indicator	**H_2S feed rate**	**Firebox Temperature**
A. Measurement approach	Inlet feed volume shall be monitored with a system capable of measuring and recording the flow rate and/or the parameters utilized for flow rate calculation or estimated utilizing material balances, computer simulations, special testing and etc. Inlet feed analyzed no less than once each six (6) months for its H_2S content. Frequency may be modified upon receipt of Departmental approval.	Firebox temperature shall be monitored with thermocouple or equivalent device.
II. Indicator range	**H_2S feed rate of less than or equal to 500 Lbs/Hr** A deviation is defined as anytime the daily H_2S feed rate is greater than 500 Lbs/Hr. A deviation triggers an immediate inspection, corrective action, and reporting within 48 hours or two work days.	**Firebox temperature of greater than or equal to 900 °F.** A deviation is defined as anytime the firebox temperature is less than 900 °F. Minimum thermal oxidizer firebox temperature can be modified upon Departmental approval. A deviation triggers an immediate inspection, corrective action, and reporting within 48 hours or two work days.
A QIP threshold	Not Applicable	If more than 6 deviations occur during any semi-annual reporting period, determination shall be made of the oxidation efficiency that resulted from the lowest temperature event during the calendar 6 month period. At the Department's request, the resultant data shall be utilized in an Air quality modeling study to determine if an exceedance occurred and a Quality Improvement Plan shall be developed and implemented. Results of the study along with the QIP shall be sent to the Department within 60 days of the end of the calendar semi-annual period.
III. Performance criteria		
A. Data representiveness	Each volume monitor shall be located upstream of the thermal oxidizer and shall consist of a single device that monitors all streams or multiple devices that monitor individual or multiple streams.	Each temperature monitor shall be located within the combustion chamber or immediately downstream of the combustion chamber.

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Monitoring approach:	***Periodic Monitoring***	***Compliance Assurance Monitoring***
	The volume sensor shall be accurate to within 2% of span or 5% of design flow rate. The sample point for H_2S content shall be located downstream of where the various gas processing streams combine prior to entry into thermal oxidizer and emergency flare.	The sensor shall be accurate to within 5% of temperature measured.
B. Verification of operational status	Not applicable	Not applicable
C. QA/QC practices & criteria	Each volume monitor shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide adequate assurance that the device is calibrated accurately, or at least annually whichever is more frequent. If the monitor fails its calibration tests, the monitor shall be taken out of service until repairs and/or replacements are made and a new calibration test is undertaken and passed.	Each temperature monitor shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide adequate assurance that the device is calibrated accurately. If the monitor fails its calibration tests, the monitor shall be taken out of service until repairs and/or replacements are made and a new calibration test is undertaken and passed.
D. Monitoring frequency	Inlet volume measured continuously. Inlet feed H_2S content sample obtained and analyzed no less than once each six (6) months.	Continuously
Data collection procedure	Calculate &/or record an inlet volume that is representative of the average daily volume entering the thermal oxidizer. Record daily hours of operation. Record each H_2S concentration analysis. Calculate & record H_2S and SO_2 emissions monthly. Record calibration results. Record inspection results, corrective and actions taken.	Recorded once each day. Record calibration results. Record inspection results, corrective and actions taken.
Averaging period	24 hour	Instantaneous

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***Table 2**: Opacity Monitoring for Thermal Oxidizer*

Monitoring approach:	***Periodic Monitoring***
I. Indicator	**Opacity Monitoring for Thermal Oxidizer**
A. Measurement approach	Provided the thermal oxidizer is being operated and facility operating personnel notices visible emissions being emitted from the thermal oxidizer, a visual emission observation on the thermal oxidizer shall be undertaken. Duration of each observation shall be: >= 15 minutes And <= 60 minutes Each observation shall be conducted in accordance with either: Test Method 9 of 40 CFR Part 60 Or Test Method 22 of 40 CFR Part 60 Provided that Test Method 9 is used, the method shall be administered by an individual certified in using that method.
II. Indicator range	No more than one 6-min. average opacity reading during any 60 minute period shall exceed 20%. Or No 6-min. average opacity reading shall exceed 40%. Or The accumulated time of observed visible emissions shall not exceed 12 minutes. A deviation is defined as anytime the observed 6-minute average opacity exceeds 20% for the 2nd time when utilizing Method 9. A deviation is defined as anytime the observed 6-minute average opacity exceeds 40% for the 1st time when utilizing Method 9. A deviation is defined as anytime visible emissions are observed for greater than 12 minutes during a 60 minute period when utilizing Method 22. A deviation or exceedance triggers continued visible emissions observations at a frequency suitable to defining the emission deviation or exceedance event. One observation shall be undertaken to establish the end of the visible emission deviation event. A deviation or exceedance triggers an inspection, corrective action, and immediate reporting within 48 hours or two work days.
III. Performance criteria	
A. Monitoring frequency	Each occurrence, or as set by the Department
Data collection procedure	Record: Each occurrence, or as set by the Department Each 15 second observation reading Record: Each occurrence Time, date and results of corrective actions taken
Averaging period	Not applicable

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The emergency flare is used only during startup and shutdown of the facility.

Emission Point	Description	Pollutant	Emission Limit	Regulations
Individual Sources:				
Emergency Flare		Opacity	<=20 % <40%	Rule 335-3-4-.01(1) Rule 335-3-4-.01(2)
		H_2S	No venting to atmosphere	Rule 335-3-5-.03(2)
		H_2S	20 ppbv of H_2S offsite	Rule 335-3-5-.03(2)
		SO_2	Unlimited if available sulfur Less than or Equal to 10 LTons/Day	Rule 335-3-5-.03(3)

Applicability:

- The emergency flare is subject to the applicable requirements of ADEM Admin. Code R. 335-3-4-.01, "*Visible Emissions*" for Control of Particulate Emissions. During period of startups and shutdowns only, sour gas can be routed to the emergency flare for combustion prior to being released to the atmosphere.

- The emergency flare is required to meet the applicable requirements of ADEM Admin. Code R. 335-3-5-.03(1), "*Petroleum Production*" because this unit is used during startups and shutdowns to demonstrate compliance with this regulation by burning the process gas streams containing 0.10 grains of H_2S/scf prior to its release into the atmosphere.

- ADEM Admin. Code R. 335-3-16-.03, "*Major Source Operating Permits".* The Silas Field has been deemed a major source of criteria pollutants; therefore, the flare is also considered to be a major source and it is subject to the applicable requirements of this regulation.

- The emergency flare is subject to 40 CFR 64, "*Compliance Assurance Monitoring (CAM)*". The following three criteria had to be met in order for this unit to be subject to CAM regulations: the unit had to be subject to an emission limit or standard, a control device had to be used to achieve compliance with the emissions limit or standard, and pre-controlled emissions had to be greater than 100 TPY for criteria pollutants, 10 TPY for a single hazardous air pollutant (HAP) or 25 TPY for a combination of HAPs.

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The emergency flare is used as control device during startup and shutdowns to comply with the work practice requirement to burn process gas containing 0.10 grains of H_2S/scf. The pre-controlled SO_2 emissions from the thermal oxidizer have the potential to exceed the 100 TPY major source threshold for criteria pollutants. Therefore, if the thermal oxidizer is shutdown and the sour gas from the thermal oxidizer is routed to the emergency flare, emissions from the emergency flare could potentially exceed the 100 TPY limit. Therefore, the emergency flare is also subject to CAM regulations.

Emission Standards:

- The emergency flare is required to meet the 20% and 40% opacity requirements as specified in ADEM Admin. Code R. 335-3-4-.01(1) (a) and (b).

- Each process gas stream shall be burned to the extent that the ground level concentration of H_2S are less than 20 ppb beyond plant property limits, averaged over 30 minutes as required by ADEM Admin. Code R. 335-3-5-.03(2). Except when being depressurized and/or emptied, venting to the atmosphere shall not exceed 15 continuous minutes.

- Each process gas stream that can be vented to the atmosphere is allowed to be routed to the emergency flare for combustion only during periods of startups and shutdowns.

- The emergency flare shall be operated with the presence of a flame or spark at the flare tip at all times that the process gas streams can be vented to it.

Compliance and Performance Test Methods and Procedures:

- The H_2S content of the process gas streams sent to the emergency flare should be equivalent to the H_2S content sent to the thermal oxidizer; therefore, no testing is required for the flare.

- Compliance with the visible emission standard shall be meet by conducting a visible emissions observations of the emergency flaring when visible emission are observed from the emergency flare as specified in the opacity monitoring section for the emergency flare.

- Compliance with the requirement to burn process gas containing 0.10 grains of H_2S/scf that can be sent to the emergency flare during periods of startups and shutdowns, shall be met by detecting the presence of a flame or spark at the flare tip.

- Compliance with the requirement to burn process gas to the extent that the offsite concentration does not exceed 20 ppbv is demonstrated by not allowing

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the H_2S feedrate to the emergency flare to exceed 500 lb/hr.

Emission Monitoring:

- Compliance with the emissions standards for the emergency flare can be met by meeting the CAM and Periodic Monitoring for the emergency flare found in Table 3 and the Opacity Monitoring found in Table 4.

- Emission monitoring is also meet by maintaining records during periods of startups and shutdowns as required in the recordkeeping and reporting section for the emergency flare.

Recordkeeping and Reporting Requirements:

- For each occurrence of startup and shutdowns when the emergency flare is being utilized, the following monthly records shall be maintained:

  Volume of Sour Gas Flared in Emergency Flare (Mscf/Month)

  Number of Hours Emergency Flare Operated (Hours/Month)

  H_2S Feedrate to the Flare (Lbs/Hour)

  SO_2 Emissions from Emergency Flare (Lbs/Hour)

  Provided that visible emissions have been observed from the emergency flare, records of the visible emissions observation as specified in Table 4 shall be maintained.

  Date, starting time, and duration of each deviation or exceedance of emission standards along with the cause and corrective actions taken.

- A Periodic Monitoring Report (PMR) that identifies each incidence of a deviation from a permit term or condition, including those that occur during startups and shutdowns shall be prepared and submitted to the Department.

  - The PMR report shall be submitted semi-annually on calendar basis according to the following reporting schedule:

Reporting Period	Submittal Date
January 1st through June 31st	*July 31st*
July 1st through December 31st	*January 31st*

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***Table 3**: Periodic Monitoring and CAM for Emergency Flare*

Monitoring approach:	***Periodic Monitoring***	***Compliance Assurance Monitoring***
I. Indicator	**H_2S feed rate**	**Operate emergency flare with a flame or spark present at all times when a process gas stream may be sent to it.**
A. Measurement approach	Inlet feed volume shall be monitored with a system capable of measuring and recording the flow rate and/or the parameters utilized for flow rate calculation or estimated utilizing material balances, computer simulations, special testing and etc.	The flare tip shall be equipped either with a continuous sparking flame igniter that is monitored by an amp meter or an equivalent device or by visual observation. *OR* Equipped with a continuously burning pilot light that is monitored with either a thermocouple or an equivalent device or by visual observation.
II. Indicator range	**H_2S feed rate of less than or equal to 500 Lbs/Hr**	**Presence of a flame or spark at flare tip**
	A deviation is defined as anytime the daily H_2S feed rate is greater than 500 Lbs/Hr.	A deviation is defined as when there was no spark or flame present at the flare tip when a process gas stream could be vented to it.
	A deviation triggers an immediate inspection, corrective action, and reporting within 48 hours or two work days.	A deviation triggers an immediate inspection, corrective action, and reporting within 48 hours or two work days.
A. QIP threshold	Not applicable	If more than 6 deviations occur during any semi-annual reporting period, a Quality Improvement Plan shall be developed and implemented.
III. Performance criteria		
A. Data representiveness	Each volume monitor shall be located upstream of the emergency flare and shall consist of a single device that monitors all streams or multiple devices that monitor individual or multiple streams.	Each flame igniter or flame monitor shall be located at the flare tip and focused on the area where gas exits the flare tip.
	The volume sensor shall be accurate to within 2% of span or 5% of design flow rate.	Visual observations shall be made from the location that provides the best view of the flare tip and/or flare pilot lights or flare igniter.
	The sample point for H_2S content shall be located downstream of where the various gas processing streams combine prior to entry into the thermal oxidizer and the emergency flare.	
B. Verification of operational status	Not applicable	Not applicable

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Monitoring approach:	***Periodic Monitoring***	***Compliance Assurance Monitoring***
C. QA/QC practices & criteria	Each volume monitor shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide adequate assurance that the device is calibrated accurately, or at least annually whichever is more frequent.	Each flame igniter or flame monitor shall be maintained and calibrated in accordance with the manufacturer's specifications, other written procedures that provide adequate assurance that the device is properly maintained and calibrated accurately, or at least annually whichever is more frequent.
	If the monitor fails its calibration tests, the monitor shall be taken out of service until repairs and/or replacements are made and a new calibration test is undertaken and passed.	Repairs and/or replacements shall be made immediately when non-functioning or damaged parts are found.
		Flame igniter arc length shall not exceed 10% of arc interval and shall have an arcing frequency of no greater than once every 3 seconds.
D. Monitoring frequency	Inlet volume measured continuously.	Pilot flame shall be monitored either continuously with a thermocouple or by performing a visual inspection of the flare each occurrence when process gas is being sent to it for combustion.
	Inlet feed H_2S content sample obtained and analyzed no less than once each six (6) months.	Flame igniter - arcing frequency shall be monitored either continuously with an amp meter or by performing a visual inspection of the flare each occurrence when process gas is being sent to it for combustion.
Data collection procedure	Calculate &/or record an inlet volume that is representative of the average daily volume entering the emergency flare.	Record time, date and duration of each incident of when no spark or flame was present at the flare tip when a process gas stream could have been sent to it.
	Record daily hours of operation for the emergency flare.	Record time, date and results of each visual observation.
	Record each H_2S concentration analysis.	Record time, date and results of each calibration.
	Calculate & record H_2S and SO_2 emissions monthly.	Record time, date and results of each inspection and corrective actions taken.
	Record calibration results.	
	Record inspection results, corrective and actions taken.	
Averaging period	24 hour	Daily

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***Table 4**: Opacity Monitoring for Emergency Flare*

Monitoring approach:	***Periodic Monitoring***
I. Indicator	**Opacity Monitoring for Emergency Flare**
A. Measurement approach	Provided the emergency flare is being operated and facility operating personnel notices visible emissions being emitted, a visual emission observation on the emergency flare shall be undertaken. Duration of each observation shall be: >= 15 minutes And <= 60 minutes Each observation shall be conducted in accordance with either: Test Method 9 of 40 CFR Part 60 Or Test Method 22 of 40 CFR Part 60 Provided that Test Method 9 is used, the method shall be administered by an individual certified in using that method.
II. Indicator range	No more than one 6-min. average opacity reading during any 60 minute period shall exceed 20%. Or No 6-min. average opacity reading shall exceed 40%. Or The accumulated time of observed visible emissions shall not exceed 12 minutes. A deviation is defined as anytime the observed 6-minute average opacity exceeds 20% for the 2nd time when utilizing Method 9. A deviation is defined as anytime the observed 6-minute average opacity exceeds 40% for the 1st time when utilizing Method 9. A deviation is defined as anytime visible emissions are observed for greater than 12 minutes during a 60 minute period when utilizing Method 22. A deviation or exceedance triggers continued visible emissions observations at a frequency suitable to defining the emission deviation or exceedance event. One observation shall be undertaken to establish the end of the visible emission deviation event. A deviation or exceedance triggers an inspection, corrective action, and immediate reporting within 48 hours or two work days.
III. Performance criteria	
A. Monitoring frequency	Each occurrence, or as set by the Department
Data collection procedure	Record: Each occurrence, or as set by the Department Each 15 second observation reading Record: Each occurrence Time, date and results of corrective actions taken
Averaging period	Not applicable

HAPS EMISSIONS FROM OIL & GAS PRODUCTION FACILITIES 40 CFR 63, SUBPART HH

On June 3, 2007, 40 CFR 63 Subpart HH, "*National Emission Standards for Hazardous* Air *Pollutants (HAPs) from Oil and Natural Gas Production Facilities"* was promulgated for area sources of HAPs. Silas Field's applicability to this newly promulgated regulation is discussed below.

Emission Point	Description	Pollutant	Emission Limit	Regulations
Individual Sources:				
	Affected Sources for Area Sources	HAPs	N/A	N/A

Applicability:

- The Silas Field is not subject to the applicable requirements of 40 CFR 63 Subpart HH, *"National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities"* (40 CFR §63.760 Subpart HH). The facility is defined as an area source of HAPs since it is not expected to meet the definition of a major source of HAPs as defined in 40 CFR §63.761. Also, the Silas Field processes, upgrades, or stores hydrocarbon liquids prior to the point of custody transfer (40 CFR §63.760(a)(1) and (a)(2) Subpart HH).

  However, in order for this facility to be subject to the applicable area source requirements of this subpart, it is required to have an affected source. An affected source for area sources of HAPs, would include each tri-ethylene glycol (TEG) dehydration unit located at a facility subject to the requirements of this subpart (40 CFR §63.760(b)(2) Subpart HH). Since the facility is not equipped with an affected source for area sources of HAPs, it would not be subject to the applicable requirements of this subpart (40 CFR §63.760(d) Subpart HH).

Emission Standards:

- There are no applicable emission standards requirements specified for these units.

Compliance and Performance Test Methods and Procedures:

- There are no applicable compliance and performance test methods and procedures specified for these units.

Emission Monitoring:

- There are no applicable monitoring requirements specified for these units.

Recordkeeping and Reporting Requirements:

- There are no applicable recordkeeping and reporting requirements specified for these units.

STORAGE TANK EMISSIONS

Sour gas vapors from the storage tanks at Silas Field are routed to the Thermal Oxidizer or emergency flare for combustion. The facility is currently permitted for the following storage tanks:

Emission Point	Description	Pollutant	Emission Limit	Regulations
Individual Sources:				
Three (3) 42,000 gallon Crude Oil Storage Tanks Two (2) 21,000 gallon Crude Oil Storage Tanks One (1) 12,600 gallon Salt Water Storage Tank				

Applicability:

- Storage vessels for petroleum liquids which has a storage capacity greater than 40,000 gallons are subject to the requirements of 40 CFR 60 Subpart K "*Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After June 11, 1973 and Prior to May 19, 1978*" (40 CFR 60.110(a)). However, the three 42,000 gallon crude oil storage tanks at the Silas Field are not subject to this regulation, because storage vessels for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer are exempt from this regulation (40 CFR 60.110(b)).

Emission Standards:

- There are no applicable emissions standard specified for this unit; however, the facility has elected to route vapors from the storage tanks to the thermal oxidizer or emergency flare for combustion.

Compliance and Performance Test Methods and Procedures:

- There are no applicable compliance and performance test methods and procedures specified for these units.

Emission Monitoring:

- There are no applicable monitoring requirements specified for these units.

Recordkeeping and Reporting Requirements:

- There are no applicable recordkeeping and reporting requirements specified for these units.

Recommendations

Pruet Production Company's Silas Oil and Gas Production Facility should be allowed to modify their Major Source Operating Permit (MSOP) during this renewal period. Their requests to change the frequency of H_2S sampling from monthly to semi-annually and to change the frequency of recordkeeping from daily to monthly should be granted by the Department based on the historical data provided by the facility as justification. Also, the request to reduce the thermal oxidizer firebox temperature from 1200°F to 900°F should be granted. The decision to allow this new temperature is based on the firebox temperatures of similar facilities and the fact that the Silas Field should be able to demonstrate the proper destruction efficiency at the new temperature.

After reviewing ADEM's Administrative Code of Regulations and the Federal Code of Regulations for newly promulgated and modified regulations, I recommend that Pruet Production Company be issued a renewal for its Silas Oil and Gas Production Facility operating under MSOP No.: 101-0003. The facility should be able to meet the requirements of this permit as well as all federal and state requirements.

_____ March 30, 2009
Harlotte Bolden-Wright Draft Date
Air Division
Energy Branch
Industrial Minerals Section

ATTACHEMENT A:

DRAFT PROVISOS

MAJOR SOURCE OPERATING PERMIT

PERMITTEE: PRUET PRODUCTION COMPANY

FACILITY NAME: SILAS FIELD OIL & GAS PRODUCTION FACILITY

FACILITY/PERMIT NO.: 101-0003

LOCATION: SILAS, CHOCTAW COUNTY, ALABAMA

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Ala. Code 1975, §§22-28-1 to 22-28-23 (2006 Rplc. Vol. and 2007 Cum. Supp.) (the "AAPCA") and the Alabama Environmental Management Act, as amended, Ala. Code 1975, §§22-22A-1 to 22-22A-15, (2006 Rplc. Vol. and 2007 Cum. Supp.) and rules and regulations adopted thereunder, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

*Pursuant to the **Clean Air Act of 1990**, all conditions of this permit are federally enforceable by EPA, the Alabama Department of Environmental Management, and citizens in general. Those provisions which are not required under the **Clean Air Act of 1990** are considered to be state permit provisions and are not federally enforceable by EPA and citizens in general. Those provisions are contained in separate sections of this permit.*

Issuance Date: DRAFT 4/3/09

Effective Date: SEPTEMBER 28, 2009

Expiration Date: SEPTEMBER 28, 2014

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General Permit Provisos

Federally Enforceable Provisos	Regulations
1. Transfer	
This permit is not transferable, whether by operation of law or otherwise, either from one location to another, from one piece of equipment to another, or from one person to another, except as provided in Rule 335-3-16-.13(1)(a)5.	Rule 335-3-16-.02(6)
2. Renewals	
An application for permit renewal shall be submitted at least six (6) months, but not more than eighteen (18) months, before the date of expiration of this permit.	Rule 335-3-16-.12(2)
The source for which this permit is issued shall lose its right to operate upon the expiration of this permit unless a timely and complete renewal application has been submitted within the time constraints listed in the previous paragraph.	
3. Severability Clause	
The provisions of this permit are declared to be severable and if any section, paragraph, subparagraph, subdivision, clause, or phrase of this permit shall be adjudged to be invalid or unconstitutional by any court of competent jurisdiction, the judgment shall not affect, impair, or invalidate the remainder of this permit, but shall be confined in its operation to the section, paragraph, subparagraph, subdivision, clause, or phrase of this permit that shall be directly involved in the controversy in which such judgment shall have been rendered.	Rule 335-3-16-.05(e)
4. Compliance	
(a) The permittee shall comply with all conditions of ADEM Admin. Code 335-3. Noncompliance with this permit will constitute a violation of the Clean Air Act of 1990 and ADEM Admin. Code 335-3 and may result in an enforcement action; including but not limited to, permit termination, revocation and reissuance, or modification; or denial of a permit renewal application by the permittee.	Rule 335-3-16-.05(f)
(b) The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.	Rule 335-3-16-.05(g)

General Permit Provisos

Federally Enforceable Provisos	Regulations
5. <u>Termination for Cause</u>	
This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance will not stay any permit condition.	Rule 335-3-16-.05(h)
6. <u>Property Rights</u>	
The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.	Rule 335-3-16-.05(i)
7. <u>Submission of Information</u>	
The permittee must submit to the Department, within 30 days or for such other reasonable time as the Department may set, any information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. Upon receiving a specific request, the permittee shall also furnish to the Department copies of records required to be kept by this permit.	Rule 335-3-16-.05(j)
8. <u>Economic Incentives, Marketable Permits, and Emissions Trading</u>	
No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.	Rule 335-3-16-.05(k)
9. <u>Certification of Truth, Accuracy, and Completeness</u>:	
Any application form, report, test data, monitoring data, or compliance certification submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.	Rule 335-3-16-.07(a)
10. <u>Inspection and Entry</u>	
Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized representatives of the Alabama Department of Environmental	Rule 335-3-16-.07(b)

General Permit Provisos

Federally Enforceable Provisos	Regulations
Management and EPA to conduct the following: (a) Enter upon the permittee's premises where a source is located or emissions-related activity is conducted, or where records must be kept pursuant to the conditions of this permit; (b) Review and/or copy, at reasonable times, any records that must be kept pursuant to the conditions of this permit; (c) Inspect, at reasonable times, this facility's equipment (including monitoring equipment and air pollution control equipment), practices, or operations regulated or required pursuant to this permit; (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or other applicable requirements.	
11. <u>Compliance Provisions</u> (a) The permittee shall continue to comply with the applicable requirements with which the company has certified that it is already in compliance. (b) The permittee shall comply in a timely manner with applicable requirements that become effective during the term of this permit.	Rule 335-3-16-.07(c)
12. <u>Compliance Certification</u> A compliance certification shall be submitted annually by **November 28**. (a) The compliance certification shall include the following: (1) The identification of each term or condition of this permit that is the basis of the certification; (2) The compliance status; (3) The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with Rule 335-3-16-.05(c) (Monitoring and Recordkeeping Requirements);	Rule 335-3-16-.07(e)

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(4) Whether compliance has been continuous or intermittent; (5) Such other facts as the Department may require to determine the compliance status of the source; (b) The compliance certification shall be submitted to: Alabama Department of Environmental Management Air Division P.O. Box 301463 Montgomery, AL 36130-1463 and to: Air and EPCRA Enforcement Branch EPA Region IV 61 Forsyth Street, SW Atlanta, GA 30303	
13. <u>Reopening for Cause</u> Under any of the following circumstances, this permit will be reopened prior to the expiration of the permit: (a) Additional applicable requirements under the Clean Air Act of 1990 become applicable to the permittee with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which this permit is due to expire. (b) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into this permit. (c) The Department or EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit. (d) The Administrator or the Department determines that this permit must be revised or revoked to assure	Rule 335-3-16-.13(5)

Federally Enforceable Provisos	Regulations
compliance with the applicable requirements.	
14. Additional Rules and Regulations	
This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.	§22-28-16(d), Code of Alabama 1975, as amended
15. Equipment Maintenance or Breakdown	
(a) In the case of shutdown of air pollution control equipment (which operates pursuant to any permit issued by the Director) for necessary scheduled maintenance, the intent to shut down such equipment shall be reported to the Director at least twenty-four (24) hours prior to the planned shutdown, unless such shutdown is accompanied by the shutdown of the source which such equipment is intended to control. Such prior notice shall include, but is not limited to the following:	Rule 335-3-1-.07(1), (2)
(1) Identification of the specific facility to be taken out of service as well as its location and permit number;	
(2) The expected length of time that the air pollution control equipment will be out of service;	
(3) The nature and quantity of emissions of air contaminants likely to occur during the shutdown period;	
(4) Measures such as the use of off-shift labor and equipment that will be taken to minimize the length of the shutdown period;	
(5) The reasons that it would be impossible or impractical to shut down the source operation during the maintenance period.	
(b) In the event that there is a breakdown of equipment or upset of process in such a manner as to cause, or is expected to cause, increased emissions of air contaminants which are above an applicable standard, the person responsible for such equipment shall notify the Director within 24 hours or the next working day and provide a statement giving all pertinent facts, including the estimated duration of the breakdown. The Director	

General Permit Provisos

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shall be notified when the breakdown has been corrected.	
16. <u>Operation of Capture and Control Devices</u>	
All air pollution control devices and capture systems for which this permit is issued shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.	§22-28-16(d), Code of Alabama 1975, as amended
17. <u>Obnoxious Odors</u>	
This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.	Rule 335-3-1-.08
18. <u>Fugitive Dust</u>	
(a) Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.	Rule 335-3-4-.02
(b) Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:	
(1) By the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;	
(2) By reducing the speed of vehicular traffic to a point below that at which dust emissions are created;	
(3) By paving;	
(4) By the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;	

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Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.	
19. Additions and Revisions	
Any modifications to this source shall comply with the modification procedures in Rules 335-3-16-.13 or 335-3-16-.14.	Rule 335-3-16-.13 and .14
20. Recordkeeping Requirements	
(a) Records of required monitoring information of the source shall include the following:	Rule 335-3-16-.05(c)2
(1) The date, place, and time of all sampling or measurements;	
(2) The date analyses were performed;	
(3) The company or entity that performed the analyses;	
(4) The analytical techniques or methods used;	
(5) The results of all analyses; and	
(6) The operating conditions that existed at the time of sampling or measurement.	
(b) Retention of records of all required monitoring data and support information of the source for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by the permit	
21. Reporting Requirements	
(a) Reports to the Department of any required monitoring shall be submitted at least every 6 months. All instances of deviations from permit requirements must be clearly	Rule 335-3-16-.05(c)3

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identified in said reports. All required reports must be certified by a responsible official consistent with Rule 335-3-16-.04(9).	
(b) Deviations from permit requirements shall be reported within 48 hours or 2 working days of such deviations, including those attributable to upset conditions as defined in the permit. The report will include the probable cause of said deviations, and any corrective actions or preventive measures that were taken.	
22. <u>Emission Testing Requirements</u>	
Each point of emission which requires testing will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.	Rule 335-3-1-.05(3) and Rule 335-3-1-.04(1)
The Air Division must be notified in writing at least 10 days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.	
To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:	
(1) The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.	Rule 335-3-1-.04
(2) A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedures require probe cleaning).	
(3) A description of the process(es) to be tested including the feed rate, any operating parameters used to control or influence the operations, and the rated capacity.	
(4) A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.	

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A pretest meeting may be held at the request of the source owner or the Air Division. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis. All test reports must be submitted to the Air Division within 30 days of the actual completion of the test unless an extension of time is specifically approved by the Air Division.	Rule 335-3-1-.04
23. Payment of Emission Fees Annual emission fees shall be remitted each year according to the fee schedule in ADEM Admin. Code R. 335-1-7-.04.	Rule 335-1-7-.04
24. Other Reporting and Testing Requirements Submission of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require emission testing at any time.	Rule 335-3-1-.04(1)
25. Title VI Requirements (Refrigerants) Any facility having appliances or refrigeration equipment, including air conditioning equipment, which use Class I or Class II ozone-depleting substances as listed in 40 CFR Part 82, Subpart A, Appendices A and B, shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82, Subpart F. No person shall knowingly vent or otherwise release any Class I or Class II substance into the environment during the repair, servicing, maintenance, or disposal of any device except as provided in 40 CFR Part 82, Subpart F. The responsible official shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the US EPA and the Department as required.	40 CFR Part 82
26. Chemical Accidental Prevention Provisions If a chemical listed in Table 1 of 40 CFR Part 68.130 is present in a process in quantities greater than the threshold quantity listed in Table 1, then: (a) The owner or operator shall comply with the provisions	40 CFR Part 68

Federally Enforceable Provisos	Regulations
in 40 CFR Part 68.	
(b) The owner or operator shall submit one of the following:	
(1) A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR Part 68 § 68.10(a) or,	
(2) A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the Risk Management Plan.	
27. Display of Permit	
This permit shall be kept under file or on display at all times at the site where the facility for which the permit is issued is located and will be made readily available for inspection by any or all persons who may request to see it.	Rule 335-3-14-.01(1)(d)
28. Circumvention	
No person shall cause or permit the installation or use of any device or any means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes any emission of air contaminant which would otherwise violate the Division 3 rules and regulations.	Rule 335-3-1-.10
29. Visible Emissions	
Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.	Rule 335-3-4-.01(1)
30. Fuel-Burning Equipment	
(a) Unless otherwise specified in the Unit Specific provisos of this permit, no fuel-burning equipment may discharge particulate emissions in excess of the emissions specified in Part 335-3-4-.03.	Rule 335-3-4-.03
(b) Unless otherwise specified in the Unit Specific provisos of this permit, no fuel-burning equipment may discharge	

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sulfur dioxide emissions in excess of the emissions specified in Part 335-3-5-.01.	Rule 335-3-5-.01
31. Process Industries – General	
Unless otherwise specified in the Unit Specific provisos of this permit, no process may discharge particulate emissions in excess of the emissions specified in Part 335-3-4-.04.	Rule 335-3-4-.04
32. Averaging Time for Emission Limits	
Unless otherwise specified in the permit, the averaging time for the emission limits listed in this permit shall be the nominal time required by the specific test method.	Rule 335-3-1-.05
33. Compliance Assurance Monitoring (CAM)	
Conditions (a) through (d) that follow are general conditions applicable to emissions units that are subject to the CAM requirements. Specific requirements related to each emissions unit are contained in the unit specific provisos and the attached CAM appendices.	
(a) Operation of Approved Monitoring	40 CFR 64.7
(1) *Commencement of operation*. The owner or operator shall conduct the monitoring required under this section and detailed in the unit specific provisos and CAM appendix of this permit (if required) upon issuance of the permit, or by such later date specified in the permit pursuant to §64.6(d).	
(2) *Proper maintenance*. At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.	
(3) *Continued operation*. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring	

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malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. (4) *Response to excursions or exceedances*. (a) Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable. (b) Determination of whether the owner or operator has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process. (5) *Documentation of need for improved monitoring*. After approval of monitoring under this part, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the	

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approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the Department and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.	
(b) Quality Improvement Plan (QIP) Requirements	40 CFR 64.8
(1) Based on the results of a determination made under Section 33(a)(4)(b) above, the Administrator or the permitting authority may require the owner or operator to develop and implement a QIP. Consistent with 40 CFR §64.6(c)(3), the permit may specify an appropriate threshold, such as an accumulation of exceedances or excursions exceeding 5 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, for requiring the implementation of a QIP. The threshold may be set at a higher or lower percent or may rely on other criteria for purposes of indicating whether a pollutant-specific emissions unit is being maintained and operated in a manner consistent with good air pollution control practices.	
(2) Elements of a QIP:	
A. The owner or operator shall maintain a written QIP, if required, and have it available for inspection.	
B. The plan initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the owner or operator shall modify the plan to include procedures for conducting one or more of the following actions, as appropriate:	
(i) Improved preventive maintenance practices.	
(ii) Process operation changes.	

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(iii) Appropriate improvements to control methods. (iv) Other steps appropriate to correct control performance. (v) More frequent or improved monitoring (only in conjunction with one or more steps under paragraphs (2)(b)(i) through (iv) above). (3) If a QIP is required, the owner or operator shall develop and implement a QIP as expeditiously as practicable and shall notify the Department if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined. (4) Following implementation of a QIP, upon any subsequent determination pursuant to Section 33(a)(4)(b) above, the Department may require that an owner or operator make reasonable changes to the QIP if the QIP is found to have: A. Failed to address the cause of the control device performance problems; or B. Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. (5) Implementation of a QIP shall not excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.	
(c) Reporting and Recordkeeping Requirements	40 CFR 64.9
(1) General reporting requirements A. On and after the date specified in Section 33(a)(1) above by which the owner or operator must use monitoring that meets the requirements of this part, the owner or operator shall submit monitoring reports to the permitting authority in accordance	

Federally Enforceable Provisos	Regulations

with ADEM Admin. Code R. 335-3-16-.05(c)3.

B. A report for monitoring under this part shall include, at a minimum, the information required under ADEM Admin. Code R. 335-3-16-.05(c)3. and the following information, as applicable:

(i) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

(ii) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

(iii) A description of the actions taken to implement a QIP during the reporting period as specified in Section 33(b) above. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

(2) General recordkeeping requirements.

A. The owner or operator shall comply with the recordkeeping requirements specified in ADEM Admin. Code R. 335-3-16-.05(c)2.. The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to Section 33(b) above and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).

B. Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review,

General Permit Provisos

Federally Enforceable Provisos	Regulations
and does not conflict with other applicable recordkeeping requirements.	
(d) Savings Provisions	40 CFR 64.10
(1) Nothing in this part shall:	
A. Excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act. The requirements of this part shall not be used to justify the approval of monitoring less stringent than the monitoring which is required under separate legal authority and are not intended to establish minimum requirements for the purpose of determining the monitoring to be imposed under separate authority under the Act, including monitoring in permits issued pursuant to title I of the Act. The purpose of this part is to require, as part of the issuance of a permit under title V of the Act, improved or new monitoring at those emissions units where monitoring requirements do not exist or are inadequate to meet the requirements of this part.	
B. Restrict or abrogate the authority of the Department to impose additional or more stringent monitoring, recordkeeping, testing, or reporting requirements on any owner or operator of a source under any provision of the Act, including but not limited to sections 114(a)(1) and 504(b), or state law, as applicable.	
C. Restrict or abrogate the authority of the Department to take any enforcement action under the Act for any violation of an applicable requirement or of any person to take action under section 304 of the Act.	

Summary Page for Thermal Oxidizer

Permitted Operating Schedule: **24** Hours/Day x **365** Days/Year = **8,760** Hours/Year

Emission Limitations:

Emission Point #	Description	Pollutant	Emission Limit	Regulation
001	Thermal Oxidizer	Opacity	No more than one six (6) minute average >20% and No six (6) minute average > 40%, in sixty (60) minute period	Rule 335-3-4-.01(1)(a) Rule 335-3-4-.01(1)(b)
		H_2S	No venting to atmosphere	Rule 335-3-5-.03(2)
		H_2S	20 ppbv of H_2S off site	Rule 335-3-5-.03(2)
Provided available sulfur is less than or equal to 10 Long Tons per day.		SO_2	Unlimited	Rule 335-3-5-.03(3)
		CO	None	
		NO_X	None	
		VOC	None	

Provisos for Thermal Oxidizer

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Applicability	Rule 335-3-16-.03
1. The thermal oxidizer shall be subject to the applicable requirements of ADEM Admin. Code R. 335-3-4-.01, "*Visible Emissions*" for Control of Particulate Emissions.	Rule 335-3-4-.01(1)(a) and (b)
2. Each facility that handles gas or refinery gas that contains more than 0.10 grain of hydrogen sulfide (H_2S) per standard cubic foot (scf) shall be subject to the applicable requirements of ADEM Admin. Code R. 335-3-5-.03, "*Petroleum Production*".	Rule 335-3-5-.03(1)
3. The thermal oxidizer shall be subject to the applicable requirements of ADEM Admin. Code R. 335-3-16-.03, "*Major Source Operating Permits*".	Rule 335-3-16-.03
4. The thermal oxidizer shall be subject to the requirements of 40 CFR 64, "*Compliance Assurance Monitoring (CAM)*".	40 CFR 64
Emission Standards	Rule 335-3-16-.05(a)
1. The thermal oxidizer shall meet the opacity requirements specified in 1(a) and (b) of this section of this subpart.	Rule 335-3-16-.05(a)
(a) Except for one 6-minute period during any 60-consecutive minute period, the thermal oxidizer shall not discharge into the atmosphere particulate that results in an opacity greater than 20%, as determined by a 6-minute average.	Rule 335-3-4-.01(1)(a)
(b) At no time shall the thermal oxidizer discharge into the atmosphere particulate that results in an opacity greater than 40%, as determined by a 6-minute average.	Rule 335-3-4-.01(1)(b)
2. All process gas streams containing 0.10 of a grain of hydrogen sulfide (H_2S) per standard cubic feet (Scf) shall be burned to the extent that the ground level concentrations of hydrogen sulfide shall be less than twenty (20) parts per billion beyond plant property limits, averaged over a thirty (30) minute period.	Rule 335-3-5-.03(2)
3. Sulfur Dioxide (SO_2) emissions from Category II Counties with available sulfur of 10 Long Tons per day or less shall be unlimited.	Rule 335-3-5-.03(3)
Compliance and Performance Test Methods and Procedures	Rule 335-3-16-.05(c)(1)(i) Rule 335-3-1-.05
1. Compliance with the opacity standards shall be met by conducting a visible emissions observations of the thermal oxidizer when visible	

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emissions are emitted from this unit.

2. For the purpose of demonstrating compliance with proviso 2 and 3 of the *emissions standards* section of this subpart, the sour gas stream from each process stream entering the thermal oxidizer shall be tested for its H_2S content in accordance to the requirements specified in proviso 2(a) through (c) of this section of this subpart.

   (a) Each sample collected shall be analyzed utilizing one of the following procedures:

      (1) Tutwiler procedures in 40 CFR §60.648

      (2) Chromatographic analysis procedures in ASTM E-260

      (3) Stain tube procedures in GPA 2377-86

      (4) Procedures provided by the stain tube manufacture

      (5) Other methods approved by the Department.

   [SG Stream (H_2S Mole %)]

   (b) Testing shall occur at a frequency of no less than once each six (6) months.

      (i) The frequency of testing may be modified upon receipt of Departmental approval.

   (c) *Sour gas* (SG) means any gas with an H_2S content greater than that, which is considered to be pipeline quality gas.

3. Compliance with the requirement to burn process gas containing 0.10 grains of H_2S/Scf shall be demonstrated by meeting the requirements specified in proviso 3(a) and (b) of this section of this subpart.

   (a) Each process gas stream that has to be vented to the atmosphere shall be captured and sent to the thermal oxidizer for combustion.

      (i) Compliance shall be demonstrated by conducting a process flow design evaluation of the production facility in conjunction with a visual inspection of the facility.

      (ii) Except when vessels and equipment are being de-pressured and/or emptied and the reduced pressure will not allow flow of the gas to a control device, venting to

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the atmosphere of any process gas stream shall not exceed a duration of fifteen (15) continuous minutes.	
(b) Maintain the minimum themal oxidizer firebox temperature at a temperature greater than or equal to 900 ^{O}F.	
(i) Provided an exceedance and/or deviation occur, 40 CFR 64.7(d) shall be complied with.	40 CFR 64.7(d)(2)
(ii) The minimum firebox temperature may be modified upon Departmental approval.	
4. Compliance with the requirement to meet the 20 ppb offsite H_2S concentration shall be demonstrated by maintaining the H_2S feedrate to the thermal oxidizer at less than or equal to 500 pounds per hour (Lbs/Hour).	
Emission Monitoring	Rule 335-3-16-.05(c)(1) Rule 335-3-1-.04
1. Compliance Assurance Monitoring (CAM) and Periodic Monitoring for the thermal oxidizer shall be met by complying with the requirements specified in *Appendix A, "Thermal Oxidizer Monitoring"*.	40 CFR §64.6(b) & (c)
2. Opacity Monitoring shall be met by complying with the requirements specified in *Appendix B, "Opacity Monitoring for Thermal Oxidizer"*.	
3. Periodic Monitoring for the thermal oxidizer is also met by maintaining records as specified in the *recordkeeping and reporting* section of this subpart.	
Recordkeeping and Reporting Requirements	Rule 335-3-16-.05(c)(2) Rule 335-3-1-.04 40 CFR §64.9
1. For the purpose of demonstrating compliance with proviso 2 and 3 of the emission standards section of this subpart, a monthly record of the information specified in provisos 1(a) through (ix) of this section of this subpart shall be maintained.	
(i) Daily Thermal Oxidizer Firebox Temperature [Temp ^{O}F]	
(ii) Volume of SG Burned in Thermal Oxidizer [SG Stream Volume Burned (MScf/Month)]	

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(iii) SG Streams H_2S (Lbs/Month) = [SG Stream Volume Burned (Mscf/Month)] X [(SG Streams H_2S Content (mol %)) / 100)] X [(1 lb-mol/0.380 Mscf)] X [(34 Lbs H_2S/Lb-mol)]	
(iv) Thermal Oxidizer H_2S (Lbs/Month)= Σ of SG Streams H_2S (Lbs/Month)	
(v) Hours of Operation for Thermal Oxidizer [Op Hours (Hours/Month)]	
(vi) H_2S Feedrate to Thermal Oxidizer (Lbs/Hour)= $\frac{\text{[Thermal Oxidizer } H_2S \text{ (Lbs/Month)]}}{\text{[Op Hours (Hours/Month)]}}$	
(vii) SO_2 Emissions from Thermal Oxidizer (Lbs/hour) = H_2S Feedrate to Thermal Oxidizer (Lbs/Hour) X $\frac{\text{[(64 Lbs } SO_2\text{/Lb-mol)]}}{\text{[(34 Lbs } H_2S\text{/Lb-mol)]}}$	
(viii) Provided that visible emissions are being emitted from the thermal oxidizer, a record of each visible emissions observation shall be maintained.	
(ix) A record of the date, starting times, and duration of each deviation or exceedence of the emission standards, along with an explanation of the cause and corrective actions taken shall be maintained.	40 CFR §64.9(a)(2)(i)
2. To demonstrate compliance with proviso 21(a) of the general provisos subpart of this permit, reports that meet the following requirements shall be submitted to the Department:	
(a) The report shall identify each incidence of a deviation from a permit term or condition including those that occur during startups and shutdowns:	
(1) A deviation shall mean any condition determined by observation, by data collected by any continuous monitoring system or periodic monitoring required by the permit that can be used to determine compliance, that identifies an affected source has failed to meet an applicable emission limitation or standard or that a work practice was not complied with or	

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completed.

(2) If no deviation event occurred during reporting period, a statement that indicates there were no deviations from the permit requirements shall be included in the report.

(b) Provided a continuous monitoring system (CMS) is being utilized, an Excessive Emission and CMS Performance Report and Summary Report meeting the requirements specified in provisos 2(b)(1) and (2) of this section of this subpart shall be submitted to the Department.

(1) A deviation shall consist of any period during which the firebox temperature was less than 900 ^{O}F when the process gas stream could be vented to the thermal oxidizer.

(2) Each report shall meet the following:

(i) Meet the requirements specified in proviso 2(c)(2) of this section.

(ii) Meet the requirements specified in 40 CFR 60.7(c) of Subpart A.

(iii) Shall cover a calendar semi-annual period and shall be submitted to the Department on the following reporting schedule, except as provided in proviso 2(d) of this section.

Reporting Period	Submittal Date
January 1st through June 31st	*July 31st*
July 1st through December 31st	*January 31st*

(c) Provided a continuous monitoring system is not being utilized, a Periodic Monitoring Report meeting the requirements specified in provisos 2(c)(1) through (3) of this section of this subpart shall be submitted to the Department.

(1) A deviation shall consist of the following:

(i) Opacity exceeding 20% for more than one 6 minute averaging period during any 60 minute period.

(ii) Opacity exceeding 40% over a 6 minute averaging period during any 60 minute period.

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(iii) Failure to maintain the minimum thermal oxidizer firebox temperature at a temperature greater than or equal to 900 ^{O}F.

(iv) Failure to maintain the H_2S feedrate to the thermal oxidizer at less than or equal to 500 Lbs/Hour to demonstrate that the 20 ppbv offsite concentration is being met.

(v) Failure to burn the process gas stream to the thermal oxidizer prior to venting to atmosphere.

(vi) Failure to maintain the duration of venting to atmosphere to less than or equal to 15 consecutive minutes.

(vii) Failure to perform monitoring, testing, and recordkeeping and reporting as required by these sections of this subpart.

(2) Except as provided for in proviso 2(d) of this section, the report shall include the requirements specified in proviso 2(c)(2)(i) through (xi) for each deviation event.

(i) Emission source description

(ii) Permit requirement

(iii) Date

(iv) Starting time

(v) Duration

(vi) Actual quantity

(vii) Cause

(viii) Action taken to return to compliance

(ix) Total operating hours of the affected source during the reporting period

(x) Total hours of deviation events during the reporting period

(xi) Total hours of deviation events that occurred during start ups, shut downs, and malfunctions during the

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reporting period. (3) The periodic monitoring report shall cover a calendar semi-annual period and shall be submitted to the Department on the following reporting schedule: Reporting Period — Submittal Date *January 1st through June 31st* — *July 31st* *July 1st through December 31st* — *January 31st* (d) The contents of the reports may be modified upon receipt of Departmental approval.	
3. Each deviation including those that occur during start ups, shut downs, and malfunctions shall be report to the Department in a manor that complies with proviso 15(b) and 21(b) of the general proviso subpart of this permit and §71.6(a)(3)(iii)(B) of 40 CFR Part 71.	Rule 335-3-16-.05(c)(3)(ii) §71.6(a)(3)(iii)(B)

Summary Page for Emergency Flare

Permitted Operating Schedule: Only during periods of startup and shutdown.

Emission Limitations:

Emission Point #	Description	Pollutant	Emission Limit	Regulation
002	Emergency Flare	Opacity	No more than one 6 minute average >20% and	Rule 335-3-4-.01(1)(a)
			No six minute average > 40%, in any sixty minute period	Rule 335-3-4-.01(1)(b)
		H_2S	No venting to atmosphere	Rule 335-3-5-.03(2)
			20 ppbv of H_2S offsite	Rule 335-3-5-.03(2)
Provided available sulfur is less than or equal to 10 Long Tons per day.		SO_2	Unlimited	Rule 335-3-5-.03(3)

Provisos for Emergency Flare

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Applicability	Rule 335-3-16-.03
1. The emergency flare shall be subject to the applicable requirements of ADEM Admin. Code R. 335-3-4-.01, "*Visible Emissions*" for Control of Particulate Emissions.	Rule 335-3-4-.01(1)(a) and (b)
2. Each facility that handles gas or refinery gas that contains more than 0.10 grain of hydrogen sulfide (H_2S) per standard cubic foot (scf) shall be subject to the applicable requirements of ADEM Admin. Code R. 335-3-5-.03, "*Petroleum Production*".	Rule 335-3-5-.03(1)
3. The emergency flare shall be subject to the applicable requirements of ADEM Admin. Code R. 335-3-16-.03, "*Major Source Operating Permits*".	Rule 335-3-16-.03
4. The emergency flare shall be subject to the requirements of 40 CFR 64, "*Compliance Assurance Monitoring (CAM)*".	40 CFR 64
Emission Standards	Rule 335-3-16-.05(a)
1. The emergency flare shall meet the opacity requirements specified in 1(a) and (b) of this section of this subpart.	Rule 335-3-16-.05(a)
(a) Except for one 6-minute period during any 60-consecutive minute period, the emergency flare shall not discharge into the atmosphere particulate that results in an opacity greater than 20%, as determined by a 6-minute average.	Rule 335-3-4-.01(1)(a)
(b) At no time shall the emergency flare discharge into the atmosphere particulate that results in an opacity greater than 40%, as determined by a 6-minute average.	Rule 335-3-4-.01(1)(b)
2. All process gas streams containing 0.10 of a grain of hydrogen sulfide (H_2S) per standard cubic feet (Scf) shall be burned to the extent that the ground level concentrations of hydrogen sulfide shall be less than twenty (20) parts per billion beyond plant property limits, averaged over a thirty (30) minute period.	Rule 335-3-5-.03(2)
3. Sulfur Dioxide (SO_2) emissions from Category II Counties with available sulfur of 10 Long Tons per day or less shall be unlimited.	Rule 335-3-5-.03(3)
Compliance and Performance Test Methods and Procedures	Rule 335-3-16-.05(c)(1)(i) Rule 335-3-1-.05
1. Compliance with the opacity standards shall be met by conducting a visible emissions observation of the emergency flaring when visible emissions are emitted from this unit.	

Provisos for Emergency Flare

Federally Enforceable Provisos	Regulations
2. Compliance with the requirement to burn process gas containing 0.10 grains of H_2S/Scf shall be demonstrated by meeting the requirements specified in proviso 2(a) and (b) of this section of this subpart.	
(a) During periods of startup and shutdown, each process gas stream that has to be vented to the atmosphere shall be captured and sent to the emergency flare for combustion.	
(1) Compliance shall be demonstrated by conducting a process flow design evaluation of the production facility in conjunction with a visual inspection of the facility.	
(2) Except when vessels and equipment are being de-pressured and/or emptied and the reduced pressure will not allow flow of the gas to a control device, venting to the atmosphere of any process gas stream shall not exceed a duration of fifteen (15) continuous minutes.	
(b) Maintain the presence of a flame or spark at the flare tip at all times that a process gas stream can be sent to emergency flare for combustion.	
(1) Provided an exceedance and/or deviation occur, 40 CFR 64.7(d) shall be complied with.	40 CFR 64.7(d)(2)
3. Compliance with the requirement to meet the 20 ppb offsite H_2S concentration shall be demonstrated by maintaining the H_2S feedrate to the emergency flare at less than or equal to 500 pounds per hour (Lbs/Hour).	
4. The H_2S content of the process gas streams sent to the emergency flare should be equivalent to the H_2S content sent to the thermal oxidizer; therefore, no testing is required for the emergency flare.	
Emission Monitoring	Rule 335-3-16-.05(c)(1) Rule 335-3-1-.04
1. Compliance Assurance Monitoring (CAM) and Periodic Monitoring for the emergency flare shall be met by complying with the requirements specified in *Appendix C, "Emergency Flare Monitoring"*.	40 CFR §64.6(b) & (c)
2. Opacity Monitoring shall be met by complying with the requirements specified in *Appendix D, "Opacity Monitoring for Emergency Flare"*.	
3. Periodic Monitoring is also met for the emergency flare by maintaining records as specified in the *recordkeeping and reporting*	

Provisos for Emergency Flare

Federally Enforceable Provisos	Regulations
section of this subpart.	
Recordkeeping and Reporting Requirements	Rule 335-3-16-.05(c)(2) Rule 335-3-1-.04 40 CFR §64.9
1. The following monthly records shall be maintained for each occurrence when the emergency flare is being utilized:	
(a) Volume of SG Flared in Emergency Flare [SG Stream Volume Burned (Mscf/Month)]	
(b) SG Streams H_2S (Lbs/Month)=	
[SG Stream Volume Burned (Mscf/Month)] X [(SG Streams H_2S Content (mol %)) / 100)] X [(1 lb-mol/0.380 Mscf)] X [(34 Lbs H_2S/Lb-mol)]	
(c) Flare H_2S (Lbs/Month)= Σ of SG Streams H_2S (Lbs/Month)	
(d) Hours of Operation for Flare [Op Hours (Hours/Month)]	
(e) H_2S Feedrate to the Flare (Lbs/Hour)= $\frac{[\text{Flare } H_2S \text{ (Lbs/Month)}]}{[\text{Op Hours (Hours/Month)}]}$	
(f) SO_2 Emissions from Flare (Lbs/hour) = H_2S Feedrate to the Flare (Lbs/Hour) X $\frac{[(64 \text{ Lbs } SO_2/\text{Lb-mol})]}{[(34 \text{ Lbs } H_2S/\text{Lb-mol})]}$	
(g) Provided that visible emissions are being emitted from the emergency flare, a record of each visible emissions observation shall be maintained.	
(h) A record of the date, starting times, and duration of each deviation or exceedence of the emission standards along with an explanation of the cause and corrective actions taken shall be maintained.	
2. A Periodic Monitoring Report meeting the requirements specified in provisos 2(a) through (c) of this section of this subpart shall be	

Federally Enforceable Provisos	Regulations

submitted to the Department.

(a) A deviation shall consist of the following:

(1) Opacity exceeding 20% for more than one 6 minute averaging period during any 60 minute period.

(2) Opacity exceeding 40% over a 6 minute averaging period during any 60 minute period.

(3) Failure to maintain the presence of a spark or flame at the flare tip at all times that a process gas stream can be sent to the emergency flare.

(4) Failure to maintain the H_2S feedrate to the emergency flare at less than or equal to 500 Lbs/Hour to demonstrate that the 20 ppbv offsite concentration is being met

(5) Failure to burn the process gas stream to the emergency flare only during periods of startups and shutdowns.

(6) Failure to maintain the duration of venting to atmosphere to less than or equal to 15 consecutive minutes.

(7) Failure to perform monitoring, testing, and recordkeeping and reporting as required by these sections of this subpart.

(b) Except as provided for in proviso 2(d) of this section, the report shall include the requirements specified in proviso 2(b)(1) through (11) for each deviation event.

(1) Emission source description

(2) Permit requirement

(3) Date

(4) Starting time

(5) Duration

(6) Actual quantity

(7) Cause

(8) Action taken to return to compliance

(9) Total operating hours of the affected source during the

Provisos for Emergency Flare

Federally Enforceable Provisos	Regulations
reporting period (10) Total hours of deviation events during the reporting period (11) Total hours of deviation events that occurred during start ups, shut downs, and malfunctions during the reporting period (3) The periodic monitoring report shall cover a calendar semi-annual period and shall be submitted to the Department on the following reporting schedule: Reporting Period — Submittal Date *January 1st through June 31st* — *July 31st* *July 1st through December 31st* — *January 31st* (d) The contents of the reports may be modified upon receipt of Departmental approval.	
3. Each deviation including those that occur during start ups, shut downs, and malfunctions shall be report to the Department in a manor that complies with proviso 15(b) and 21(b) of the general proviso subpart of this permit and §71.6(a)(3)(iii)(B) of 40 CFR Part 71.	Rule 335-3-16-.05(c)(3)(ii) §71.6(a)(3)(iii)(B)

APPENDIX A

Thermal Oxidizer Monitoring

THERMAL OXIDIZER MONITORING

Monitoring approach:	*Periodic Monitoring*	*Compliance Assurance Monitoring*
I. Indicator	**H_2S feed rate**	**Firebox Temperature**
A. Measurement approach	Inlet feed volume shall be monitored with a system capable of measuring and recording the flow rate and/or the parameters utilized for flow rate calculation or estimated utilizing material balances, computer simulations, special testing and etc. Inlet feed analyzed no less than once each six (6) months for its H_2S content. Frequency may be modified upon receipt of Departmental approval.	Firebox temperature shall be monitored with thermocouple or equivalent device.
II. Indicator range	**H_2S feed rate of less than or equal to 500 Lbs/Hr** A deviation is defined as anytime the daily H_2S feed rate is greater than 500 Lbs/Hr. A deviation triggers an immediate inspection, corrective action, and reporting within 48 hours or two work days.	**Firebox temperature of greater than or equal to 900 °F.** A deviation is defined as anytime the firebox temperature is less than 900 °F. Minimum thermal oxidizer firebox temperature can be modified upon Departmental approval. A deviation triggers an immediate inspection, corrective action, and reporting within 48 hours or two work days.
A. QIP threshold	Not Applicable	If more than 6 deviations occur during any semi-annual reporting period, determination shall be made of the oxidation efficiency that resulted from the lowest temperature event during the calendar 6 month period. At the Department's request, the resultant data shall be utilized in an Air quality modeling study to determine if an exceedance occurred and a Quality Improvement Plan shall be developed and implemented. Results of the study along with the QIP shall be sent to the Department within 60 days of the end of the calendar semi-annual period.
III. Performance criteria		
A. Data representiveness	Each volume monitor shall be located upstream of the thermal oxidizer and shall consist of a single device that monitors all streams or multiple devices that monitor individual or multiple streams. The volume sensor shall be accurate to within 2% of span or 5% of design flow rate.	Each temperature monitor shall be located within the combustion chamber or immediately downstream of the combustion chamber. The sensor shall be accurate to within 5% of temperature measured.

THERMAL OXIDIZER MONITORING

Monitoring approach:	***Periodic Monitoring***	***Compliance Assurance Monitoring***
	The sample point for H_2S content shall be located downstream of where the various gas processing streams combine prior to entry into thermal oxidizer and emergency flare.	
B. Verification of operational status	Not applicable	Not applicable
C. QA/QC practices & criteria	Each volume monitor shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide adequate assurance that the device is calibrated accurately, or at least annually whichever is more frequent.	Each temperature monitor shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide adequate assurance that the device is calibrated accurately.
	If the monitor fails its calibration tests, the monitor shall be taken out of service until repairs and/or replacements are made and a new calibration test is undertaken and passed.	If the monitor fails its calibration tests, the monitor shall be taken out of service until repairs and/or replacements are made and a new calibration test is undertaken and passed.
D. Monitoring frequency	Inlet volume measured continuously.	Continuously
	Inlet feed H_2S content sample obtained and analyzed no less than once each six (6) months.	
Data collection procedure	Calculate &/or record an inlet volume that is representative of the average daily volume entering the thermal oxidizer.	Recorded once each day.
	Record daily hours of operation.	
	Record each H_2S concentration analysis.	
	Calculate & record H_2S and SO_2 emissions monthly.	
	Record calibration results.	Record calibration results.
	Record inspection results, corrective and actions taken.	Record inspection results, corrective and actions taken.
Averaging period	24 hour	Instantaneous

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APPENDIX B

Opacity Monitoring for Thermal Oxidizer

Opacity Monitoring for Thermal Oxidizer

Monitoring approach:	***Periodic Monitoring***
I. Indicator	**Opacity Monitoring for Thermal Oxidizer**
A. Measurement approach	Provided the thermal oxidizer is being operated and facility operating personnel notices visible emissions being emitted from the thermal oxidizer, a visual emission observation on the thermal oxidizer shall be undertaken. Duration of each observation shall be: >= 15 minutes And <= 60 minutes
II. Indicator range	
	No more than one 6-min. average opacity reading during any 60 minute period shall exceed 20%. Or No 6-min. average opacity reading shall exceed 40%. Or The accumulated time of observed visible emissions shall not exceed 12 minutes. A deviation is defined as anytime the observed 6-minute average opacity exceeds 20% for the 2nd time when utilizing Method 9. A deviation is defined as anytime the observed 6-minute average opacity exceeds 40% for the 1st time when utilizing Method 9. A deviation is defined as anytime visible emissions are observed for greater than 12 minutes during a 60 minute period when utilizing Method 22. A deviation or exceedance triggers continued visible emissions observations at a frequency suitable to defining the emission deviation or exceedance event. One observation shall be undertaken to establish the end of the visible emission deviation event. A deviation or exceedance triggers an inspection, corrective action, and immediate reporting within 48 hours or two work days.
III. Performance criteria	
A. Monitoring frequency	Each occurrence, or as set by the Department
Data collection procedure	Record: Each occurrence, or as set by the Department Each 15 second observation reading Record: Each occurrence Time, date and results of corrective actions taken
Averaging period	Not applicable

APPENDIX C

Emergency Flare Monitoring

Emergency Flare Monitoring

Monitoring approach:	***Periodic Monitoring***	***Compliance Assurance Monitoring***
I. Indicator	**H_2S feed rate**	**Operate emergency flare with a flame or spark present at all times when a process gas stream may be sent to it.**
A. Measurement approach	Inlet feed volume shall be monitored with a system capable of measuring and recording the flow rate and/or the parameters utilized for flow rate calculation or estimated utilizing material balances, computer simulations, special testing and etc.	The flare tip shall be equipped either with a continuous sparking flame igniter that is monitored by an amp meter or an equivalent device or by visual observation. OR Equipped with a continuously burning pilot light that is monitored with either a thermocouple or an equivalent device or by visual observation.
II. Indicator range	**H_2S feed rate of less than or equal to 500 Lbs/Hr**	**Presence of a flame or spark at flare tip**
	A deviation is defined as anytime the daily H_2S feed rate is greater than 500 Lbs/Hr.	A deviation is defined as when there was no spark or flame present at the flare tip when a process gas stream could be vented to it.
	A deviation triggers an immediate inspection, corrective action, and reporting within 48 hours or two work days.	A deviation triggers an immediate inspection, corrective action, and reporting within 48 hours or two work days.
A. QIP threshold	Not applicable	If more than 6 deviations occur during any semi-annual reporting period, a Quality Improvement Plan shall be developed and implemented.
III. Performance criteria		
A. Data representiveness	Each volume monitor shall be located upstream of the emergency flare and shall consist of a single device that monitors all streams or multiple devices that monitor individual or multiple streams.	Each flame igniter or flame monitor shall be located at the flare tip and focused on the area where gas exits the flare tip.
	The volume sensor shall be accurate to within 2% of span or 5% of design flow rate.	Visual observations shall be made from the location that provides the best view of the flare tip and/or flare pilot lights or flare igniter.
	The sample point for H_2S content shall be located downstream of where the various gas processing streams combine prior to entry into the emergency flare and thermal oxidizer.	
B. Verification of operational status	Not applicable	Not applicable
C. QA/QC practices & criteria	Each volume monitor shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide adequate assurance that the device is calibrated accurately, or at least annually whichever is more frequent.	Each flame igniter or flame monitor shall be maintained and calibrated in accordance with the manufacturer's specifications, other written procedures that provide adequate assurance that the device is properly maintained and calibrated accurately, or at least annually whichever is more frequent.

Emergency Flare Monitoring

Monitoring approach:	***Periodic Monitoring***	***Compliance Assurance Monitoring***
	If the monitor fails its calibration tests, the monitor shall be taken out of service until repairs and/or replacements are made and a new calibration test is undertaken and passed.	Repairs and/or replacements shall be made immediately when non-functioning or damaged parts are found. Flame igniter arc length shall not exceed 10% of arc interval and shall have an arcing frequency of no greater than once every 3 seconds.
D. Monitoring frequency	Inlet volume measured continuously.	Pilot flame shall be monitored either continuously with a thermocouple or by performing a visual inspection of the flare each occurrence when process gas is being sent to it for combustion. Flame igniter - arcing frequency shall be monitored either continuously with an amp meter or by performing a visual inspection of the flare each occurrence when process gas is being sent to it for combustion.
Data collection procedure	Calculate &/or record an inlet volume that is representative of the average daily volume entering the emergency flare. Record daily hours of operation for the emergency flare. Record each H_2S concentration analysis. Calculate & record H_2S and SO_2 emissions monthly. Record calibration results. Record inspection results, corrective and actions taken.	Record time, date and duration of each incident of when no spark or flame was present at the flare tip when a process gas stream could have been sent to it. Record time, date and results of each visual observation. Record time, date and results of each calibration. Record time, date and results of each inspection and corrective actions taken.
Averaging period	24 hour	Daily

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APPENDIX D

Opacity Monitoring for Emergency Flare

Opacity Monitoring for Emergency Flare

Monitoring approach:	***Periodic Monitoring***
I. Indicator	**Opacity Monitoring for Emergency Flare**
A. Measurement approach	Provided the emergency flare is being operated and facility operating personnel notices visible emissions being emitted from the emergency flare, a visual emission observation on the emergency flare shall be undertaken. Duration of each observation shall be: >= 15 minutes And <= 60 minutes Each observation shall be conducted in accordance with either: Test Method 9 of 40 CFR Part 60 Or Test Method 22 of 40 CFR Part 60 Provided that Test Method 9 is used, the method shall be administered by an individual certified in using that method.
II. Indicator range	
	No more than one 6-min. average opacity reading during any 60 minute period shall exceed 20%. Or No 6-min. average opacity reading shall exceed 40%. Or The accumulated time of observed visible emissions shall not exceed 12 minutes. A deviation is defined as anytime the observed 6-minute average opacity exceeds 20% for the 2nd time when utilizing Method 9. A deviation is defined as anytime the observed 6-minute average opacity exceeds 40% for the 1st time when utilizing Method 9. A deviation is defined as anytime visible emissions are observed for greater than 12 minutes during a 60 minute period when utilizing Method 22. A deviation or exceedance triggers continued visible emissions observations at a frequency suitable to defining the emission deviation or exceedance event. One observation shall be undertaken to establish the end of the visible emission deviation event. A deviation or exceedance triggers an inspection, corrective action, and immediate reporting within 48 hours or two work days.
III. Performance criteria	
A. Monitoring frequency	Each occurrence, or as set by the Department
Data collection procedure	Record: Each occurrence, or as set by the Department Each 15 second observation reading Record: Each occurrence Time, date and results of corrective actions taken
Averaging period	Not applicable